REPLACEMENT SHEET Appln. Filing Date: April 19, 2001

Title: PEPTIDE SEQUENCES SPECIFIC FOR THE HEPATIC STAGES OF P. FALCIPARUM BEARING EPITOPES CAPABLE OF

STIMULATING THE T LYMPHOCYTES

Inventor(s): Claudine Guerin-Marchand et al. Appln. No.: 09/837,344 Sheet 1 Sheet 1 of 4

linear

CAAGAACAACAA ... ATGAAACTATAA

b.p.

1482

sednence

1-phase Translation

LSN.3'STOP ->

GAA asp CAA gln arg GAA CAA gln GAT CGT GAA glu GAA AGA AAA ser glu AGC GAG CAA gln CAA leu CAG asp CAA GAA gln leu GAT leu GAG GAA AGA AAA lys AGC ser GAA CAA CAA GAT asp leu CAA CAA lys leu asp GAT CGT GAA GAA AGA lys glu AGC ser GAA CAA GAG CAA leu CAA asp CAA lys leu GAT GAG GAA GAA AGC Ser CAA CAA leu CAA asp AAG lys 271 GAA asp CAA len GAA CAA CAA GAT CAG GAA AGA AAA ser lys GAG CAA len asb CAA CGT Leu 181 241

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	CAA	gln		TTA	len		GAG	gln		SCT	ala		AAA	lys		TTA	len		CAA	gln		ATA	ile
	CAA	gln		GAT	asb		CAA	gln		CGT	arg		AAA	lys		CGT	arg		CAT	his		ATA	ile
	GAA	glu		AGC	ser		GAA	glu		AGA	arg		ACG	thr		GGT	gly			pro		TCT	
	CA	gln		CAA	gln		TTA	len		GAG	glu		GAT	asp		TAT	tyr		ATA	ile		ATG	
	TT 6	len		CAA	gln		GAT	asp			gln		GCT	ala		TTA	len			tyr		GAA	
	AAG	lys		GAA	glu		AGC				glu			lys			asp			tyr			lys
	GAA	glu		CAA	gln		CAA	gln			len		AGG	arg		GAG				gly		TCC	
	AAA	lys		TT 6	len		CAA	gln			asp		CAA	gln		GCA				arg		GAT	
	GCT	ala		AAG	lys			glu		AGC	ser			glu			leu			glu		AGA	
	CGT	arg		GAA	glu		CAA	gln		CAA	gln		TTA	len		ATA	ile			asn		AGT	
		arg						len			gln			asp		GA GA				glu		AAT	
131	GAG	glu	151	GCT	ala	171	AAG	lys	191	GAA	glu	211	AGA	arg	231	GGA	gly	251					
		gln		CTT	len	_		glu					SA						SCA			AGA	
391	GAA	glu	451	AGA	arg	511	AAA	lys	571	TTG	len	631	CAG	gln	691	GAA	glu	751	CT	leu	811	AAC	asn
	TTA									AAG			GAG									GAC	
	GAT	asb		CAA	gln		CGT	arg															
		ser						arg					TTG									CCT	
121	CAA	gln	141	TTA	len	161	GAG	glu	181	GCT	ala	201	AAG	lys	221	GAA	glu	241	CCA	pro	261	TTA	len
_	CAA	gln	\	GAT	asp	_	CAA	gln	\	CGT	arg	_	GAA	glu	_	TTA	len	_	ATA	ile	_	TCT	ser
361	GAA	glu	421	AGC	ser	481	GAA	glu	541	AGA	arg	601	AAA	lys	661	AAT	asn	721	GAA	glu	781	TCT	ser

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	AAA	lvs		TCT	ser		CAA	gln)	GAA	glu	, 5	GAT	asp	L 1	TTA	leu	i	AAA	1 1 5		TTG	leu
-	CAT	his		AAA	lys	,	TTT	phe	-	GAA	glu	,)	CAA	gln	5	AAT	asn	: :	ATA	jle	 	AGT	ser
	ATA	ile			asb		GAT	asp	-					phe			glu		AAA	lvs ile	`	AAA	lys
		asp		SAA	glu	.		asn		ATA GAT	ile	٠	AAT	asn			asn		SAA	glu			asp
	4GG (arg)	AAA	lys	•		val		ITA	leu		GAC ,	asp	-		lys			glu			asu
	. 495	arg)		gln		GAT (asb	•	TCA	ser		TAT (tvr	•		glu					CA /	pro
	3GA (gly	•	GAA (glu		1CT (Ser		GAT .	asp	-	CAA TAT	zln	,	T	le		. YLI	leu		AAA (lys
		glu		CA	010		• TTA	ile		3AC (asp	-	CCT ATT GTG C	/al		LTG /	leu		TCA GAA GAA TTA TCT	nlz	1		. ayd
	GTT (/al		ATA AAA (lys		AAT /	. use		TAT GAC	Ľyr.	•	ATT (ile		SAT .	. dse	•	SAA (glu)		AAT .	
	AAT (asn \		ATA /	ile		3TA	/al		¥¥	llu	,	CT /	orc		SAA (glu ;	,	CA (ser		۱AT	asu
		thr ;		CA /	ser.		ACA (thr		SCT (ala		AAG (lys	•	TA (leu 1	,	2	ser		SAT /	
291	ACA /		311			331	SAG /	zlu .	351	A AGT GCT (ser	371	E	. auc	391	SAA (. nls	411	AA	lys :	431	4AG (lys asp
	ATT /			GAT (_	TA (leu 8	_	ATA /	ile	\	. AA5	glu p	_	AAA (lys 8	_	SAA /	. nlg	\	ACA /	thr .
371	TCT /	. Jes	331	AAA (lys ;	991	VCA	thr	1051	GAA ATA	. nlg	1111	SAC (asp {	1171	FAT /	tyr	1231	ATA (ile	1291	AAA /	lys
	GAA		•							GAT. (TTA (GGA /			GAA.	
	AGA (GAA /			AAT (GAG (. GAC			66A./			GAA (TAT (
	AAT /			GAA (TAT (GAA (GAT (. AAA	
281	VCA A	:hr	301		eu 8	321	VTA (ile	341	AAG 1	lys 1	361	SAT (3 dst	381	YAC /	เรย	401	LA	en !	421	YAG 1	lys l
' '										AGT /										asp l	\	GGA /	
341	AA'	;lu l	301	3GA (;ly t)61	CT (ala ;	1021	ATA /	Le .	1081	SAA (ilu i	1141	3AA (ilu 🤋	1201	SAT (Sp	1261		S
w	٠	an)	U1	٠	ωJ	U١	Ų	,,,		~	- - -		·	w)		٠	w	←	•	,,,	_		,

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	AAA	lys tyr lys asn asp lys gln val asn lys glu lys glu lys		GAT	asp	•		
	GAA	glu		GTG	۷al			
	AAG	lys		ATC	ile		TAT	†vr
	GAA	glu		CAG	gln)	ATA	j.]
	AAG	lys	-	TTA	leu		GTT	\
	AAT	asn		ATT	ile		AAG	7 \
	GTT	val		GAA	nlg	ı	TAA	OCH OCH
	CAG	gln		AAT	asn		CTA	Jen
	AAG	lys		GAC	asb		AAA	1 \ 5
	GAT	asb		GGA	gly	•	ATG	met
	AAT	asn		GAC	asb		TT	phe
451	AAA	lys	4/1	III	phe	491	TAT	tvr
`	TAT	tyr	`	ATA	ile	<u> </u>	AAA	1vs
1351	AAA	lys	1411	CAT	his	1471	ACT	thr
	¥	y s			he		Z	<u>ا</u>
	ATT	ile		TT6	len	-	GAT	asp
_	CAT	his	_	TCA	ser		GAA	gln
44]	GAG	glu	46	AAA	lys	48]	TCT	ser
\ 	GAT	asp	\ 	ATA	ile	/ 1	TTA	leu
132	TAT	tyr asp glu his ile ly	138	TTC	phe	144.	GAG	glu